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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/765,981 | 01/19/2001 | Purnam Anil Sheth | CISCO-3189 | 4112 |
| 7590 | 12/14/2004 | | EXAMINER | |
| David B. Ritchie Thelen Reid & Priest LLP P. O. Box 640640 San Jose, CA 95164 | | | BRUCKART, BENJAMIN R | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2155 | |

DATE MAILED: 12/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | |
|------------------------------|------------------------|---------------------|
| Office Action Summary | Application No. | Applicant(s) |
| | 09/765,981 | SHETH, PURNAM ANIL |
| | Examiner | Art Unit |
| | Benjamin R Bruckart | 2155 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 12 October 2004.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-8,25-32,49-56,73-80 and 97-120 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) 97-120 is/are allowed.
- 6) Claim(s) 1,2,25,26,49,50,73 and 74 is/are rejected.
- 7) Claim(s) 3-8, 27-32, 51-56, 75-80 is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
 Paper No(s)/Mail Date _____
- 4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date. _____
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: _____

Detailed Action

Claims 1-8, 25-32, 49-56, 73-80, 97-120 are pending in this Office Action.

Claims 9-24, 33-48, 57-72 and 81-96 are canceled.

Claims 1, 25, 49, and 73 remain rejected under 35 U.S.C. 103(a) as being anticipated by U.S. Patent No. 6,564,216 by Waters in view of U.S. Patent No. 6,052,725 by McCann et al.

Claims 2, 26, 50, 74 remain rejected under 35 U.S.C. 103(a) as being anticipated by U.S. Patent No. 6,564,216 by Waters in view of U.S. Patent No. 6,052,725 by McCann et al in further view of U.S. Publication No. 2002/0013847 by Fisher et al.

Claims 97-120 are allowed.

Response to Arguments

Applicant's arguments filed in the amendment filed October 12, 2004 have been fully considered but they are not persuasive. The reasons are set forth below.

Applicant's invention as claimed:

Claim 1 is rejected under 35 U.S.C. 103(a) as being anticipated by U.S. Patent No. 6,564,216 by Waters in view of U.S. Patent No. 6,052,725 by McCann et al.

Regarding claim 1, a method for managing Internet Protocol (IP) addresses on a data communications network (Waters: col. 2, lines 12-15; McCann: col. 6, 46-52), comprising:

allocating a plurality of local IP address pools (Waters: col. 3, lines 37-45), each of said local IP address pools associated with a different network edge device capable of accepting connection requests requiring an IP address (Waters: col. 6, lines 11-19, 24-32), said network edge device having a local memory (Waters: col. 4, lines 40-50; Table 1, Minimum Memory) and

updating one or more of said local IP address pool database (McCann: col. 4, lines 45-47; Waters: col. 6, lines 11-19) and a global IP pool database based upon said reallocating (Waters: col. 6, lines 39-45), said global IP address pool database including the information maintained in each said local IP address pool (Waters: col. 6, lines 11-19).

requesting IP address usage data from one or more of said network edge devices (Waters: col. 3, lines 15-17; configuration data is the usage data; col. 5, lines 38-44);

receiving said requested IP address usage data (Waters: col. 3, lines 15-17; configuration data is the usage data; col. 5, lines 38-44);

The Waters reference does not explicitly state local database.

The McCann reference teaches said local memory including a local IP address pool database (McCann: col. 4, lines 45-57);

requesting IP address usage data from one or more of said network edge devices (McCann: col. 5, lines 5-8);

receiving said requested IP address usage data (McCann: col. 5, lines 8-13, lines 19-24; col. 5, line 66- col. 6, line 9);

determining whether one or more of said plurality of local IP address pools should be reallocated based upon at least said requested IP address usage data (McCann: col. 5, lines 19-39, 54-col. 6, line 10); reallocating one or more of said plurality of local IP address pools based upon said determining (McCann: col. 5, lines 66- col. 6, line 10); and

The McCann reference further teaches the invention interacts with neighboring or remote network non-local IP address pool reducing the response time and limiting or eliminating server request refusals (McCann: col. 1, lines 64- col. 2, line 19).

Therefore it would have been obvious at the time of the invention to one of ordinary skill in the art to create the system of managing Internet Protocol addresses as taught by Waters while employing usage data and reallocating as taught by McCann in order to reduce the response time and limiting or eliminating server request refusals (McCann: col. 1, lines 64- col. 2, line 19).

Claim 2 is rejected under 35 U.S.C. 103(a) as being anticipated by U.S. Patent No. 6,564,216 by Waters in view of U.S. Patent No. 6,052,725 by McCann et al in further view of U.S. Publication No. 2002/0013847 by Fisher et al.

Regarding claim 2,

The Waters and McCann references teach the method of claim 1 for managing IP addresses.

The Waters and McCann references do not explicitly state watermarks.

The Fisher reference teaches address pool includes a high watermark that indicates the maximum number of IP addresses used by said network edge device (Fisher: page 4, para 53; page 7, para 104);

said determining further comprises ascertaining whether said high watermark of a local address pool exceeds a high watermark limit (Fisher: page 7, para 104); and

said method further comprises indicating one or more IP address pools should be reallocated to give more IP addresses to the network element associated with said high watermark when said high watermark exceeds said high watermark limit (Fisher: page 7, para 104).

The Fisher reference further teaches the invention overcomes problems of coordination of configuration data such as IP addresses to provide dynamic and coherent management of network resources (Fisher: page 2, para 28- page 3, para 30).

Therefore it would have been obvious at the time of the invention to one of ordinary skill in the art to create the system of managing Internet Protocol addresses as taught by Waters and McCann while employing a threshold as taught by Fisher in order to provide dynamic and coherent management of network resources (Fisher: page 2, para 28- page 3, para 30).

While the examiner understands the difference between a method, program storage device, and an apparatus capable of or for managing Internet Protocol addresses on a data communications network, the examiner equates the method as the actions and code in which the program storage device holds performing the apparatus's described functions. The examiner equates the following claims as parallel limitations with different preambles.

| | | | |
|---|----|----|----|
| 1 | 25 | 49 | 73 |
| 2 | 26 | 50 | 74 |
| 3 | 27 | 51 | 75 |
| 4 | 28 | 52 | 76 |
| 5 | 29 | 53 | 77 |
| 6 | 30 | 54 | 78 |
| 7 | 31 | 55 | 79 |
| 8 | 32 | 56 | 80 |

Therefore claims 25, 49, and 73 are rejected under 35 U.S.C. 103(a) as being anticipated by U.S. Patent No. 6,564,216 by Waters in view of U.S. Patent No. 6,052,725 by McCann et al.

Claims 26, 50, 74 are rejected under 35 U.S.C. 103(a) as being anticipated by U.S. Patent No. 6,564,216 by Waters in view of U.S. Patent No. 6,052,725 by McCann et al in further view of U.S. Publication No. 2002/0013847 by Fisher et al.

Claims 3-8, 27-32, 51-56, 75-80 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

REMARKS**The Applicant Argues:**

Applicant argues the McCann reference does not teach requesting IP address usage data from one or more of said network edge devices and receiving IP address usage data.

In response, the examiner respectfully submits:

The McCann reference does teach the claimed limitation. Col. 5, lines 66- col. 6, lines 10 show the process of requesting an IP address. The remote protocol server determines whether a non-local IP address from the remote pool is able to be assigned. This request is only granted after the usage data about whether the address is able to be assigned. The usage data on the requested address is inherently processed in the request. Further the Waters reference teaches requesting IP address usage data from one or more of said network edge devices and receiving IP address usage data. The citation above is updated to reflect the updated citations.

“requesting IP address usage data from one or more of said network edge devices” (Waters: col. 3, lines 15-17; configuration data is the usage data; col. 5, lines 38-44);

“receiving said requested IP address usage data” (Waters: col. 3, lines 15-17; configuration data is the usage data; col. 5, lines 38-44);

The Waters reference further teaches the central database is utilized to store configuration information which includes DNS, DHCP parameters, server parameters, IP addresses, domains names, etc. (Waters: col. 3, line 67- col. 4, line 6). Further throughout the teachings of the prior art Waters, the DHCP server must check with the server manager in conjunction with the central database (Waters: col. 6, lines 15-32).

The Applicant Argues:

Applicant argues the Fisher reference does not teach a “high watermark that indicates the maximum number of IP addresses used by said network edge device.”

In response, the examiner respectfully submits:

The Fisher reference does teach the claimed limitation. The claimed limitation only repeats “a high watermark that indicates the maximum number of IP address used...” The examiner understands the difference between a high watermark and a high watermark limit and will explain the interpretation. Fisher on page 7, para 104 shows two types of pools. The first is where “limit on the maximum number of resources that are allocated in the resource pool.” For examination purposes the second is utilized, “where a limit is imposed by the number of resources in a pool. That is, the user can add more resources to an ‘exhausted’ pool but the limit on the pool cannot be exceeded.”

The limit on the pool as taught by Fisher is the high watermark limit. The high watermark that indicates the maximum number of IP addresses used by the device is taught by the limit on the maximum number of resources. Resources are the IP addresses. The limit is the watermark limit. If applicant wishes to define the watermark as a measurement then he must do so in his claim language because watermark is associated with a maximum value which can be construed as a limit. The examiner thanks applicant for his detailed explanation of the difference between a watermark and watermark limit but the detailing of the claims would need to show the distinguishing features as well. The examiner urges the applicant to further define claim 2 to include if then limitations with the limit and its relation to the watermark.

Prior Art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

U. S. Patent No. 6,266,523 by Cook et al teaches resource allocation in pools with dynamic and adjustable maximum and minimum thresholds (col. 5 and 6).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Benjamin R Bruckart whose telephone number is (571) 272-3982. The examiner can normally be reached on 8:00-5:30PM with every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hosain Alam can be reached on (571) 272-3978. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Benjamin R Bruckart
Examiner
Art Unit 2155
December 02, 2004

bab

mtc

HOSAIN ALAM
SUPERVISORY PATENT EXAMINER